

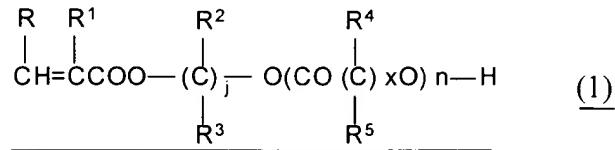
**CLAIM LISTING**

This claim listing supersedes all previous claim listings for this case.

**Claims 1-20 are cancelled.**

21. (currently amended): A curable resin composition comprising:

(i) 0.5 – 80 parts by weight of an acrylic polyol resin (A) obtained using comprising  
the a hydroxyalkyl(meth)acrylate composition as claimed in claim 87 having  
0.3 to less than 1.0 mole of polymerized lactone monomer being  
polymerized by ring-opening with respect to 1 mole of  
hydroxyalkyl(meth)acrylate, wherein the content of the lactone  
monomer in the hydroxyalkyl(meth)acrylate composition is 0-10%  
by weight, and  
a proportion of monomers having two or more continuous chains (n ≥  
2) of lactones less than 37.4% (area by GPC),  
the hydroxyalkyl(meth)acrylate composition being represented by  
formula (1) described below,



where

R, R<sup>1</sup>, R<sup>2</sup>, and R<sup>3</sup> are independently a hydrogen or a methyl group,  
“j” is an integer of 2-6,

xn pieces of R<sup>4</sup> and R<sup>5</sup> are independently a hydrogen or an alkyl group

having a carbon number of 1-12,

“x” is 4-7,

“n” is an integer greater than or equal to zero, and

an average value of “n” in the composition is not less than 0.3 to less

than 1.0,

~~in which a proportion of monomers having not less than 2~~

~~continuous chains (n≥2) of lactones is less than 50% (GPC area~~

~~%), as polymerizing components, and~~

(ii) 0.5 parts by weight of a melamine resin (B),

wherein the total of (A) and (B) does not exceed 100 parts by weight.

22. (previously presented) A curable resin composition as claimed in claim 21, wherein said hydroxyalkyl(meth)acrylate composition is obtained using a hydroxyethyl (meth)acrylate.

**Claims 23-45 are cancelled.**

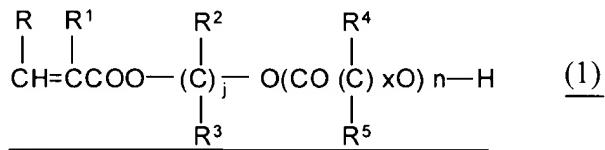
46. (currently amended): A thermosetting resin composition which comprises:  
2-50 parts of an acrylic polyol resin (VII-A) containing a the hydroxyalkyl(meth)acrylate composition comprising

0.3 to less than 1.0 mole of polymerized lactone monomer being

polymerized by ring-opening with respect to 1 mole of

hydroxyalkyl(meth)acrylate, wherein the content of the lactone

monomer in the hydroxyalkyl(meth)acrylate composition is 0-10% by weight, and  
a proportion of monomers having two or more continuous chains (n ≥ 2) of lactones less than 37.4% (area by GPC),  
the hydroxyalkyl(meth)acrylate composition being represented by  
formula (1) described below,



where

R, R<sup>1</sup>, R<sup>2</sup>, and R<sup>3</sup> are independently a hydrogen or a methyl group,  
"j" is an integer of 2-6,  
xn pieces of R<sup>4</sup> and R<sup>5</sup> are independently a hydrogen or an alkyl group  
having a carbon number of 1-12,  
"x" is 4-7,  
"n" is an integer greater than or equal to zero, and  
an average value of "n" in the hydroxyalkyl(meth)acrylate  
composition is not less than 0.3 to less than 1.0,

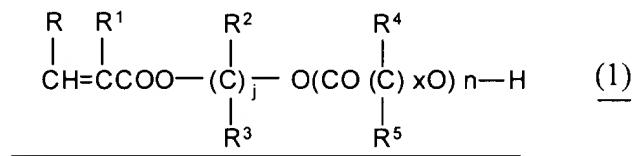
as claimed in claim 87, wherein a proportion of monomers having not less than 2  
continuous chains (n≥2) of lactones is less than 50% (GPC area %),  
and 30-80 parts of an acrylic copolymer (VII-B) having an alkoxylsilyl group,  
wherein the total of (VII-A) and (VII-B) is being 100 parts by weight.

47. (previously presented) A thermosetting resin composition as claimed in claim 46, wherein said acrylic polyol resin (VII-A) has at least one kind of group selected from the group consisting of an acid anhydride group, an epoxy group, amino group, and carboxylic group.

**Claims 48-54 are cancelled.**

55. (currently amended): A method for the preparation of a carboxylic group-containing acrylate composition (a') represented by a general formula (VIII-3) described below, said method comprising:

reacting ~~the~~ a hydroxyalkyl(meth)acrylate composition, said  
hydroxyalkyl(meth)acrylate composition comprising as claimed in  
claim 87, 0.3 to less than 1.0 mole of polymerized lactone  
monomer being polymerized by ring-opening with respect to 1  
mole of hydroxyalkyl(meth)acrylate, wherein the content of the  
lactone monomer in the composition is 0-10% by weight, and  
a proportion of monomers having two or more continuous chains (n ≥  
2) of lactones less than 37.4% (area by GPC),  
the composition being represented by formula (1) described below,



where

R, R<sup>1</sup>, R<sup>2</sup>, and R<sup>3</sup> are independently a hydrogen or a methyl group,

“j” is an integer of 2-6,

xn pieces of R<sup>4</sup> and R<sup>5</sup> are independently a hydrogen or an alkyl group

having a carbon number of 1-12,

“x” is 4-7,

“n” is an integer greater than or equal to zero, and

an average value of “n” in the composition is not less than 0.3 to less

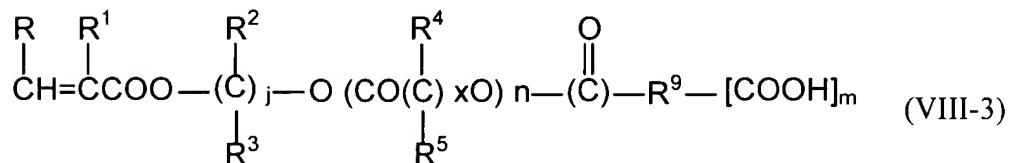
than 1.0,

~~in which a proportion of monomers having not less than 2 continuous chains~~

~~(n>2) of lactones is less than 50% (GPC area %), with a carboxylic acid~~

~~or anhydride thereof (VIII-b) represented by a general formula (VIII-2)~~

~~described below,~~



(in the formula, R, R<sup>1</sup>, R<sup>2</sup>, and R<sup>3</sup> are independently a hydrogen or a methyl group, “j” is an integer of 2-6, xn pieces of R<sup>4</sup> and R<sup>5</sup> are independently a hydrogen or an alkyl group having a carbon number of 1-12, “x” is 4-7, “n” is an integer greater than or equal to zero, an average value of “n” in said composition is not less than 0.3 to less than 1.0, R<sup>9</sup> is a residual group of a carboxylic acid, and “m” is an integer of 1-3).

56. (previously presented) A method for the preparation of a carboxylic group-contained acrylate composition (a') as claimed in claim 55, wherein said reaction of said hydroxyalkyl(meth)acrylate composition with said carboxylic acid or anhydride thereof (VIII-b) is conducted at a temperature range of 40-160 °C.

**Claims 57 and 58 are cancelled.**

59. (previously presented): A curable resin composition which comprises 10-70 parts of an acrylic polycarboxylic acid resin (A') comprising:

the carboxylic group-containing acrylate composition (a'), comprising a small amount of lactones, represented by the general formula (VIII-3) as claimed in claim 55, in which a proportion of monomers having not less than 2 continuous chains ( $n \geq 2$ ) of lactones is less than 50% (GPC area %), as a polymerizing component, and

10-80 parts of a polyepoxide (IX-B).

60. (previously presented): A curable resin composition as claimed in claim 59, wherein said carboxylic group-containing hydroxy(meth)acrylate composition (a') is obtained by allowing to react said hydroxyalkyl(meth)acrylate composition, in which a proportion of monomers having not less than 2 continuous chains ( $n \geq 2$ ) of lactones is less than 50% (GPC area %), with said carboxylic acid or anhydride thereof represented by the following general formula:



wherein R<sup>9</sup> is a residual group of a carboxylic acid, and "m" is an integer of 1-3.

61. (previously presented): A curable resin composition as claimed in claim 60, wherein said carboxylic group-containing hydroxy(meth)acrylate composition (a') comprising a small amount of lactones is obtained by allowing to react 0.9 – 1.1 mol of said carboxylic acid or anhydride thereof with respect to 1 mol of said hydroxy(meth)acrylate composition (a) comprising a small amount of lactones.

**Claims 62 – 81 are cancelled.**

82. (previously presented): A method for the preparation of a polyester unsaturated monomer composition, comprising a small amount of lactones, wherein 0.3-less than 1.0 mole of a lactone monomer is polymerized by ring-opening with respect to 1 mole of a radically polymerizable unsaturated monomer containing carboxylic group, whereby, a proportion of monomers having not less than 2 continuous chains (n≥2) of lactones is adjusted to less than 50% (GPC area %).

83. (previously presented): A method for the preparation of a polyester unsaturated monomer composition comprising a small amount of lactone as claimed in claim 82, wherein an acidic catalyst is a Lewis acid or a Brønsted acid.

84. (cancelled).

85. (previously presented): A method for the preparation of a polyester unsaturated monomer composition comprising:

polymerizing, by ring-opening, 0.3 – less than 1.0 mole of a lactone monomer with respect to 1 mole of a radically polymerizable unsaturated monomer containing carboxylic group by using stannous halide, monobutylin tris-2-ethylhexanate, stannous octoate, dibutyltin dilaurate, or a mixture thereof as a catalyst, and separating the unreacted radically polymerizable unsaturated monomer containing carboxylic group.

86. (previously presented): A method of the preparation of a polyester unsaturated monomer composition as claimed in claim 85; wherein the catalyst to be employed in said polymerization is less than 1000 ppm by weight based on total amount to be fed.

**Claims 87 and 88 are cancelled.**